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Indares.com: International database for research and educational support

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Abstract

The main objective of this study is to present Indares.com online application, its functions and approaches used. Another objective of this study is to provide information on the characteristics of users of the application, their behavior and interaction with the application. Application Indares.com was developed to allow users to keep records of their physical activity, providing them with immediate graphical and tailored feedback. The data for this study were gathered from the Indares database and with the use of Google Analytics. The application Indares.com consists of modules for recording of physical activity, use of pedometers, fitness self-assessment, body parameters, analysis of active transport, and online questionnaires. Existing experience suggests that Indares.com can be used for educational and research purposes at the same time.

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1. Introduction

Modern information and communication technologies are currently widely used in many education and research areas. Attempts to confront the outbreak of obesity bring new technologies also in the field of active lifestyle and physical activity promotion (Zhu, 2008). Growing numbers of internet users on one hand and promising results of interventions using new technologies and online tools focused on physical activity promotion on the other hand designate potentially effective direction. Online support of interventions and education campaigns can bring various benefits. Among the advantages it is possible to highlight the potential to reach and influence a wide population at relatively low costs (Lewis, et al., 2008; Spittaels, De Bourdeaudhuij, & Vandelanotte, 2007), the possibility to provide the target population with automatic and tailored feedback without interfering with their privacy and anonymity (Fotheringham, Owies, Leslie, & Owen, 2000), and letting the participants to approach the online materials in places and at times that are the most suitable for them (Moyer & Finney, 2004/2005).

Currently, different approaches are applied on the internet in order to promote an active lifestyle in the population. Merely providing information may not be sufficiently effective impetus for lifestyle change. Modern technology and online applications have the potential to contribute to a more complex solution to this problem by adding a quality individual feedback and by increasing motivation of their users. Examples of commonly known online applications representing this approach are Endomondo (http://www.endomondo.com) and Sportypal (http://www.sportypal.com). These tools are focused mainly on an individual user or sometimes on groups of users and usually cannot be easily used for research purposes by independent

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researchers and for education purposes at schools. Online application Indares (http://www.indares.com), which is presented in this paper, combines the above mentioned approaches with features facilitating its use by researchers and teachers.

Although the system is in service for 6 years and it has been used at schools and for research purposes in several studies (Chmelík, et al., 2008; Nováková Lokvencová, Frömel, Chmelík, Groffik, & Bebčáková, 2011), it is not well-known from the international perspective.

The main objective of this paper is to present Indares.com online application, its functions and approaches used. Another objective of this study is to provide information on the characteristics of users of the application, their behavior and interaction with the application.

2. Methods

2.1. Sample

The sample consists of all users of the application. In total, 19711 (8852 males, 10859 females) users registered into the system between the start-up of the application in 2006 and the end of May 2012. Majority of the users comes from the Czech Republic (72.7%) followed by Poland (18.8%), USA (5.6%), Slovakia (2.8%), and other countries (0.2%). The age structure of the users is presented in the Table 1.

Table 1. Age structure of the users of Indares.com

Age category [years]	n	%
0-10	65	0.3
11-20	7031	35.7
21-30	9916	50.3
31-40	1031	5.2
41-50	727	3.7
51-60	385	2.0
61 and more	556	2.8

2.2. Data collection

Data for the study were gathered from two sources. Information about the users, their characteristics, and used features were gained directly from the database of the application Indares.com using its administrative interface. Information about web page visits, visitors' activities, and their locations comes from Google Analytics services.

3. Results

3.1. Description of Indares.com

Indares.com is a complex on-line system focused on recording, analyzing, and comparing of data concerning physical activity of its users. The purpose of Indares.com project is to support education and research in the field of physical activity. It is also aiming at increasing users' knowledgebase in physical activity issues and at providing means to improve their life-style. The system is available in 5 languages – Czech, English, German, Polish, and Slovak. To become a user, the interested person has to register into the system and create one's own user account. All features of the system are then available to the users free of charge.

The application Indares.com was designed to be used by individual users, group of users and their administrators (for example students at schools and their teachers), and researchers. It consists of specific modules that can be utilized according to the specific needs of the user.

3.1.1. Features for individual users

Any individual user can make use of the modules for recording of physical activity, use of pedometers, fitness self-assessment, and online surveys.

3.1.1.1. Physical activity

The module Physical activity enables the users to enter their physical activities into a diary and to receive tailored feedback in the form of graphs and in tabular form. An activity can be added into the diary by choosing the specific day in the calendar, selecting the type of activity from the list, typing in the duration of the activity, selecting the specific intensity, and clicking the

save button (Figure 1). The feedback is presented in daily, weekly, and monthly overviews. It is possible to trace the structure of performed activities. The users can also set up their own goals regarding the amount of physical activity and control their fulfillment.

3.1.1.2. Steps

The module Steps is meant for users who have a pedometer or a cell phone with a step count function. Users enter the number of daily steps into the calendar and again they can receive tailored feedback in the form of daily or monthly graphs and in tabular form. There is a possibility to set up a target amount of daily steps for the user and to check easily on which days the goal was met.

3.1.1.3. Fitness self-assessment

The module Fitness assessment comprises 11 tests in total, which are divided into 4 categories: strength, endurance, flexibility, functional body parameters. First the user has to complete a short questionnaire informing her/him whether her/his health allows the user to take the tests. After that the user chooses a test from the list of tests and the related page displays with the complete test information, which contains an instruction video, the description of the test and a form using which the user can save her/his performance in the test. The evaluation is available immediately after the form is completed. The user finds out what her/his fitness level is, whether it has improved or worsened.

3.1.1.4. Online surveys

The module Online surveys contains three questionnaires: 1) Sport Preferences Survey identifies sport activities which the users prefer to take part in. Summarized information from this survey can bring significant benefit for example to schools that can learn sport preferences of their students instantly and consider them while offering school organized activities for the students. 2) International Physical Activity Questionnaire (IPAQ long form) is widely used tool to review weekly physical activity of the users. 3) Motives for Physical Activities Measure (MPAM-R) is a tool to assess reasons why users engage in physical activity. Upon completing the survey, it is possible to find out which categories of motives for participation in physical activity are the most important for the user.

3.1.2. Features for groups of users

Any user can create a specific group in the Indares.com system for other users. By creating the group the user automatically becomes an administrator of the group. In the position of the administrator it is possible to manage the group and the membership of other users. The administrator gains access to user data of her/his groups. These features are meant especially for teachers and their students. The teacher in the role of administrator has overview of the activities of her/his students and of their online surveys. Individual users can become (or cease to be) members of many different groups.

3.1.3. Features for researchers

For individual researchers it is possible to create and manage groups of users of the application and in the position of the administrator they can use filters to select specific users from the groups. They can also export their data (information on their physical activity, self-assessment, completed questionnaires, etc.) from the database for subsequent statistical analyses. The data can be exported from the system in two formats: 1) as a plain text (.txt file) and 2) in spread sheet format (.xls file). Exported files can be easily imported into statistical software.

3.2. Usage of Indares.com

By the end of May 2012, the application Indares.com has registered 172684 visits (72.5% returning visitors, 27.5% new visitors). One visit lasted on average 6 minutes and 55 seconds and the visitor viewed 13.9 pages. Majority of the visitors came from the Czech Republic (80.5%), Poland (8.5%), USA (6.4%), and Slovakia (3.5%).

4. Conclusions

Online system Indares.com can address large populations in five different languages. In the field of physical activity promotion, it represents an opportunity to conduct surveys, support interventions, and educational campaigns for educators and researchers on international level. Existing experience suggests that Indares.com can be used for educational and research purposes at the same time.

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